

REMARKS/ARGUMENTS

In the office action mailed March 28, 2005, claims 1-26 and 31 were allowed, and claims 27-30 were rejected under 35 USC 102(b) as being anticipated by U.S. Patent No. 6,540,449 to Bejerstall. Claims 1-48 are currently pending.

Missing Claim 13/Amendments to claims 14-16/New claim 16

Upon reviewing the examined claims, the undersigned attorney for applicants noticed that claim 13 was missing from the original application. In the present amendment, Claims 14-16 have been renumbered 13-15 and their dependencies have been changed. A new claim 16 has also been added. If the above procedure to cure the omission of claim 13 is improper, the Examiner is kindly asked to suggest an alternative.

Support for the language in new claim 16 can be found in the original specification at paragraph 40 (lines 15-25).

Rejection of claims 27-30 under 35 USC 102(b)/Amendment to claim 27

With regard to claim 27, when explaining the rejection of claim 27 over U.S. patent no. 6,540,449 to Bejerstall on page 2 of the office action, the Examiner argued as follows:

Regarding claim 27, '449 teaches a cutter body 500 (for example, see figure 20) with first and second sides (see figure 20 below); a centrally located female locating member formed in the cutter body first side with a throughbore extending along the cutter central axis and communicating with the female locating member (see figure 20 below, col. 6, lines 51-65, for example); a bolt 504 retained loosely in the throughbore (see figure 20); a plurality of circumferentially spaced-apart drive grooves (fig. 10 and 20, for example).

The Examiner's rejection is traversed.

First, even though the '449 patent uses the term "cutter body 500" to refer to the device seen in figure 20, this device is not a cutter body within the meaning of the present application. This device 500 is in reality a "cutting insert" of the sort held at the end of a holder for turning operations. In this regard, the Examiner's attention is directed to col. 6, lines 45-51, which reads:

Reference is now made to FIGS. 19-21, which illustrate a tool according to the invention intended for turning. In this case, the cutting body 500 consists of a cutting insert for a turning lathe with a flat basic shape, which is placed in the immediate vicinity of the front end of the shaft 501, more precisely on one of the two opposite sides 536, 537 of the shaft. (emphasis added)

Thus, it is submitted that the device 500 does not disclose a 'cutter body' within the meaning of claim 27 and so cannot anticipate this claim.

Second, there are a number of other reasons why the cutting insert 500 of the '449 patent does not anticipate pending claim 27. On page 2 of the office action, the Examiner provided a marked-up copy of the cutting insert 500 seen in Fig. 20 of the '449 patent. In this marked-up figure, the Examiner pointed to the cavity 515 and labeled this "female", ostensibly implying that she considered this to be the claimed "female locating member". However, the Examiner made no effort to explain:

- (1) how the indicated element could be considered a "female locating member"; since the description simply refers to it as a "cavity" and the cavity 415, 515 does not appear to serve a "locating" function
- (2) what portion of cutting insert 500 is considered "a throughbore extending along the cutter central axis and communicating with the female locating member";
- (3) how "bolt 504" could be considered to be "loosely retained in the throughbore" within the meaning of the present application; or
- (4) how each drive groove meets the claim 27 language of "having an insertion portion connected to a retaining portion and a bottom surface". Indeed, the Examiner did not specifically identify either the insertion portion, the retention portion, or the bottom surface.

It is therefore submitted that the '449 patent does not disclose any of these four elements. And in view of the foregoing, it is further submitted that the Examiner has failed to adequately demonstrate how the '449 anticipates each and every element of pending claim 27. If the rejection of claim 27 is to be maintained, the Examiner is kindly asked to explain the above fully so as to permit applicants to respond.

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With regard to pending claim 28, the Examiner argued that the '449 patent showed "a ring 515 (or see 415) configured to retain the bolt in the throughbore (figures 18 and 20 for example)". It is respectfully submitted that the Examiner is mistaken. Elements 415 (Fig. 18) and 515 (Fig. 20) are each said to be an "opening" or "cavity"¹. Nothing in the '449 patent either:

- (1) describes structures 415, 515 as a "ring" (as recited in claim 28), or
- (2) associates these structures with the function of retaining the bolt in the throughbore.

If the rejection is maintained, a detailed explanation of how the elements 415, 515 satisfy the term "ring" of pending claim 28, is requested.

With regard to pending claim 29, the Examiner argued that in the '449 patent, "the throughbore is such that when the cutter body 500 is turned upside down from the view of figure 20, it is easy to see that there is nothing restraining the movement of the bolt such that the bolt is only inserted into the cutter body to the extent that there is no thread extending from the throughbore."

Setting aside the fact that "cutter body 500" is actually just a cutting insert, the Examiner seems to have missed the point that claim 29 depends on claim 27, which calls for "a bolt loosely retained in the throughbore". In other words, in claim 29, the bolt must be loosely retained in the throughbore (language from claim 27) *and* when turned upside down, a threaded end of the bolt must not project from the throughbore into the female locating member. It is therefore submitted that the cutting insert 500 of the '449 patent cannot possibly meet these two conditions, and so claim 29 is independently patentable.

With regard to pending claim 30, the Examiner argued that the embodiment of Fig. 1 shows "tooth-like projections 12 that form a neck portion (central portion 14) on the side base of the cutter body that are spaced apart from a cutting head 13."² The rejection is traversed.

First, it is not completely clear what the Examiner is saying. The embodiment of Fig. 1 of the '449 patent shows a milling head 2 that is bayonet-mounted on a shaft 1. The milling head

¹ See '449 patent at col. 6, lines 25-61 for a discussion of cavities 415, 515.

² In the '449 patent, reference numeral 13 points to a "cutting edge (see col. 3, lines 59-61).

has tooth-like projections 12 provided with cutting edges 13. The milling head 2 does not require a through hole or a bolt to be secured to the shaft 1. As seen in the side view of Fig. 2 and in the partial cross-section of Fig. 5, the milling head 2 does have appear to have any sort of neck portion. What feature is the "base member" and what feature is the "neck"? Clarification is requested, if this rejection is to be maintained.

Also, is the Examiner suggesting that turning insert 500 be modified to have the tooth-like projections 12 of the milling head 2? If so, this would make no sense, since that would destroy the entire purpose of the turning insert 500. Accordingly, it is submitted that one skilled in the art would not be motivated to modify the cutting insert 500 to have the tooth-like projections 12 and cutting edges 13 seen in the cutting head 2 of Fig. 1. The Examiner cannot pick and choose random features present in various embodiments and combine them.

In view of the foregoing, it is submitted that claim 30 defines over the cited prior art, as well.

New dependent claims 32-34

Dependent claim 32 recites that the cutter body also comprises a cutting head having a plurality of locations for accommodating cutting inserts. The cutting insert 500 in Fig. 20 of the '449 patent clearly does not disclose this, nor does there seem to be any possible motive to modify cutting insert 500 of the '449 patent to have such a cutting head. Accordingly, claim 32 is believed to define over the '449 patent for reasons independent of its dependency on claim 27.

Dependent claim 33 recites that the retaining portion is associated with opposing outer and inner groove sidewalls which at least partially overhang the bottom surface. This feature is completely absent from the cutting insert 500 in Fig. 20 of the '449 patent.

Dependent claim 33 recites that the ring is seated in a recess and that it has a diameter smaller than that of a head of the bolt. These features are also completely absent from the cutting insert 500 in Fig. 20 of the '449 patent.

New independent claim 35

Pending claim 35 recites, *inter alia*:

"a bolt loosely retained in the throughbore; and
a ring positioned proximate to the second side of the cutter body, wherein

the ring prevents the bolt from being removed from the throughbore."

It is submitted that none of the cited references discloses this feature. The '449 patent does not disclose a bolt that is loosely retained in the throughbore of a cutter body. In addition, the '449 patent doesn't disclose a ring positioned proximate to the second side of the cutter body, let alone one that prevents the bolt from being removed from the throughbore.

Dependent claims 36-40 further define the invention of claim 35.

New independent claim 41

Pending claim 41 recites, inter alia,:

"a plurality of circumferentially spaced-apart drive grooves formed in the cutter body first side, each drive groove having an insertion portion connected to a retaining portion and a bottom surface, the retaining portion being associated with opposing outer and inner groove sidewalls which at least partially overhang the bottom surface"

It is submitted that none of the cited references discloses this feature. The '449 patent does not disclose a drive groove having an insertion portion connected to a retaining portion, the retaining portion being associated with opposing outer and inner groove sidewalls which at least partially overhang the bottom surface.

Dependent claims 41-47 further define the invention of claim 41 and are supported by the original application.

New independent claim 48

Pending claim 41, which specifically is directed to a "milling cutter body", recites, inter alia, "a cutting head having a plurality of locations for accommodating cutting inserts." This feature clearly is not present in the embodiment of Fig. 20 of the '449 patent, which only discloses a turning-type cutting insert 500.

Reconsideration of the application is requested. Claims 1-48 are believed to be in allowable form and define over the prior art of record. An early notice of allowance is requested so that the application may proceed to issue. Should the Examiner not agree with the foregoing, the Examiner is kindly asked to contact the undersigned to help expedite matters.

AC/SP/SP

Application Serial No. 10/735,657
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A separate Fee Transmittal Sheet is enclosed.

Respectfully Submitted,

Date: _____

DRAFT FOR DISCUSSION ONLY

Nanda K. Alapati (Reg. No. 39,893)
Womble, Carlyle, Sandridge & Rice
P.O. Box 7037
Atlanta, GA 30357-0037
703-394-2216

Enclosure